21 June 2016 PACCARB Public Meeting – Incentives for new antibiotics

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@ReviewOnAMR
Background about the Review on AMR

- Established in 2014 as independent arms length group by the UK Prime Minister, co-sponsored by the Wellcome Trust.
- Chaired by Jim O’Neill now a Minister in the UK Treasury.
- Tasked to recommend solutions to tackle antimicrobial resistance globally – through the lens of economics and policy-making.
- Mandate to build international consensus for action.
- Published seven interim papers before final report in May 2016 – [www.amr-review.org](http://www.amr-review.org).
We recommended actions across ten areas

Most actions are to reduce demand for antimicrobials

Today I focus on antimicrobial pipeline only
Which antimicrobials? What are the priorities?

- What our report said:

<table>
<thead>
<tr>
<th>Urgent need and current funding structures inadequate</th>
<th>Urgent need but current funding structures largely adequate</th>
<th>Need will arise and require future consideration</th>
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<td>• TB treatment regimen</td>
<td>• New malaria treatments</td>
<td>• HIV/AIDS drugs</td>
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<td>• Antibiotics</td>
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<td>• Antifungal medicines</td>
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- Future work needed to set national and global priorities, in particular for antibiotics: grant funding and new commercial incentives should focus on highest needs (CDC urgent list and ESKAPE pathogens are a good start).
“Push” incentives are necessary

- History of under-investment in AMR

- Current programmes start to correct to the trend:
  - Good examples are NIH, BARDA and EU IMI grant programmes.
  - Smaller scale but possibly promising: GARD in Geneva, a new product development partnership focused on antibiotic R&D, with a look to low hanging fruits first; UK-China Global Innovation Fund with ~US$140 million to start.
  - Need to sustain and increase these efforts.
Current “Push” incentives show good progress but are not sufficient

• More and different approach to push funding is needed to fill the “gaps in basic research that hamper antibiotic discovery” (Pew scientific roadmap)

• Are we sure we are picking the low hanging fruit?

• Are we getting greatest impact from Government funding or do we tend to focus resources on same kind of research and institutions?

• How does push funding relate to stewardship goals? What about access?

• One of key lessons from two years of the Review on AMR is that government and philanthropic funding is key and can be high impact but without a functional commercial market it stops short of translating into effective new products and does not solve the ‘stewardship’ paradox for antibiotics.
“Pull” incentives for antibiotics are necessary

Less than 5% of venture capital investment in pharmaceutical R&D between 2003 and 2013 was for antimicrobial development.

Total venture capital investment: $38bn
Antimicrobial venture capital investment: $1.8bn

ANTIBIOTICS IN THE PIPELINE OR RECENTLY LICENSED

High priority
Potential for activity against at least 50% of carbapenem-producing bacteria in the UK

Low priority
Does not meet the criteria for “clinically useful”

Medium priority
Targets at least one CDC “ Urgent” threat (Clostridium difficile, carbapenem-resistant Enterobacteriaceae or drug-resistant Neisseria gonorrhoeae, but is not classed as a potential “break through”)

Our proposal for a global incentive that co-exists with diverse national arrangements

Market Entry Rewards
Global panel specifies the antibiotics we need

Global access with stewardship for antibiotics

Money in
Funders

Money out
Product developers

National purchasing arrangements for antimicrobials

End users
“Pull” incentives today are very insufficient

• Current attempts at correcting the market failure for antibiotics R&D are a start but fall short of being effective:
  • Scattergun approach;
  • Not focusing scarce public resources on highest areas of public health needs;
  • Lack of coordination between countries could have unintended consequences.

• We thought long and hard in the Review about a range of possible incentives. Important that other groups continue that work and get into more details.

• Market entry rewards emerged as the best incentive in our view.

• Key consideration is to level the playing field and open competition to more players.

• Stewardship and access are not intractable – can be managed in this system. A lot of public health programmes in the past 10 years shows us the way (GAVI, CHAI etc.).

• Now we need serious government discussion of financing.
Market entry rewards would have a powerful impact on antibiotic R&D given the size and shape of the current yearly global market.

Patented antibiotics form a small percentage of the total $40 billion per year antibiotics market, so $1.6 billion a year would have a material impact.

Patented antibiotics market: $4.7 bn
Market entry reward: $1.6 bn